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EDITORIAL

Mediterranean Diet and Coronary Heart Disease

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ABSTRACT

The traditional Mediterranean diet is the diet that prevailed in the olive tree-growing areas of the Mediterranean basin up to the early 1960s, before globalization invaded the local food culture. The seminal studies by Keys and his colleagues brought the concept of the Mediterranean diet into the mainstream of the science focusing on the relation between nutrition and health. The interest in the diet has resurged in recent years with further studies indicating lower incidence of coronary heart disease and reduced mortality in those adhering to this traditional dietary pattern.

The traditional Mediterranean diet is the diet that prevailed in the olive tree-growing areas of the Mediterranean basin up to the early 1960s, before globalization invaded the local food culture. During the early post World War II years, the traditional Mediterranean diet attracted the attention of the scientific community, because the health of the Mediterraneans was better than that expected taking into account the modest regional economic development, the suboptimal local health care resources and the high prevalence of smoking in the respective population groups. The insightful, albeit ecological, studies by the legendary A. Keys and his colleagues brought the concept of the Mediterranean diet into the mainstream of the science focusing on the relation between nutrition and health (Keys, 1980).[1]

Following the Keys era, three developments, after the late 1980's, contributed to the resurgence of the traditional Mediterranean diet as a nutritional pattern of major importance for health and wellbeing. A workshop in Delphi, Greece under the auspices of WHO Europe (Helsing and Trichopoulou, 1989),[2] a conference in Boston, USA co-sponsored by the Harvard School of Public Health (Willett et al, 1995)[3] and the publication in the same year of a scale allowing the semi-quantitative assessment of conformity to the traditional Mediterranean diet (Trichopoulou et al, 1995).[4]

The development of this scale, and variants of it, underlies the shift from ecological to more reliable analytical epidemiological studies (of case- control and particularly cohort design) and the exponential increase of publications in the international scientific literature of studies evaluating the relation of conformity to the traditional Mediterranean diet with health and disease.

Several investigations have evaluated conformity to the traditional Mediterranean diet in relation to coronary heart disease (CHD) mortality and/or incidence (Mente et al, 2009).[5] In an early study based on the Greek-EPIC (European Prospective Investi-

ABBREVIATIONS
CHD = coronary heart disease
WHO = World Health Organization

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gation into Cancer and nutrition) cohort, relying on a total of 54 CHD deaths, a two point increase in the 9-point Mediterranean diet scale was associated with a significant decrease of CHD mortality by 33% (Trichopoulou et al, 2003).[6] In a large study, relying on the American Association of Retired Persons cohort, and including 3451 cardiovascular disease deaths, individuals with high adherence (score 6-9 units) to the traditional Mediterranean diet had a significantly lower, by approximately 20%, cardiovascular mortality, compared to those with low adherence (0-3 units) to this diet (Mitrou et al, 2007).[7] In an analysis of data from the Nurses' Health Study, that included 2391 incident CHD cases and 794 CHD deaths, significant inverse trend associations were noted, with women in the fifth (high conformity) quintile having 29% lower incidence and 42% lower mortality in comparison to those in the first (low adherence) quintile (Fung et al, 2009).[8] In the first analytical epidemiological study of adherence to the Mediterranean diet in relation to the incidence of CHD in a Mediterranean population, EPIC cohort participants in Spain with high adherence to the Mediterranean diet had a significant 40% lower risk of CHD in comparison to those with low adherence (Buckland et al, 2009).[9] In another study based on the Spanish SUN cohort of 13609 participants who were followed for about 5 years, a two-point increment in the Mediterranean diet score was associated with a significant 26% lower incidence of CHD (Martvnez-Gonzαlez et al, 2011).[10] In a systematic review of prospective cohort studies or randomized trials investigating dietary exposures in relation to CHD, the Mediterranean dietary pattern was the only dietary exposure for which there was strong evidence of protection in both cohort and randomized trials (Mente et al, 2009).[5] Finally, in a recent analysis of the Greek EPIC data, including 636 incident CHD cases and 240 CHD deaths, a two point increase in the Mediterranean diet score was significantly associated with lower CHD mortality by approximately 22% - the respective association with CHD incidence was again inverse, albeit weaker and non-significant (Dilis et al, in press).[11]

A frequent misconception, which leads to a form of circular reasoning, is that the Mediterranean diet score assesses adherence to an a priori defined, "optimal" health protecting diet. It should be clear that what the Mediterranean diet score assesses, is adherence to the dietary pattern which was traditionally followed in the olive oil-growing areas of the Mediterranean up to the early 1960s (Kromhout et al, 1989);[12] it just so happens that this traditional dietary pattern turned out to have favorable health effects.

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